



# County of Fairfax, Virginia

**Response to Federal Communications Commission's  
Request for Comments to  
The Technical Advisory Board for First Responder Interoperability  
Recommended Minimum Technical Requirements to Ensure  
Nationwide Interoperability for the Nationwide Public Safety  
Broadband Network PS Docket No. 12-74**

**May 31, 2012**

***Final***

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## 1. Introduction

Fairfax County is the largest jurisdiction by population in the Commonwealth of Virginia, with 1,037,605 citizens living within its 407 square miles. Public Safety (PS) services are provided by 7 local law enforcement agencies, the Fairfax County Fire Department and numerous state and federal agencies. Interoperable communications in this region is both challenging and critical. Fairfax County is part of the National Capital Region (NCR) which includes 19 other local jurisdictions that routinely rely on operational mutual aid which has made communications interoperability a reality. This interoperability will be strengthened through the allocation of the public safety 700 MHz broadband spectrum. Now that the D block will be available to public safety, public agencies and first responders have the opportunity to seamlessly access a secure, reliable, interoperable, public safety grade, broadband wireless network, without risk of service interruption due to a lack of prioritization and/or network overload once implemented.

Fairfax County, VA long identified public safety interoperable broadband services as a priority, and in fact, was approved earlier as part of a NCR-wide Waiver. On June 28, 2010, Fairfax County, VA filed a waiver to continue efforts to deploy a network as quickly as possible in the 700 MHz public safety broadband spectrum. In March 2012, the County also applied for a Special Temporary Authority (STA) to leverage the D-Block spectrum and deploy a pilot 700 MHz Public Safety network. The County's private fiber enterprise network is part of the county's overall communications infrastructure supporting the broadband network, and will meet the technical specifications the FCC has proposed, while being architected to easily integrate into any future interoperable nationwide public safety broadband network.

The County of Fairfax, Virginia is pleased to provide the following comments to the Federal Communications Commission's Request for comments on The Technical Advisory Board for First Responder Interoperability Recommended Minimum Technical Requirements to Ensure Nationwide Interoperability for the Nationwide Public Safety Broadband Network.

We look forward to working with the federal government through a strong partnership to implement the best possible nationwide network plan.

## 2. Fairfax County, Virginia Comments

### Section 1.3 Recommended Requirements Summary

### Section 1.4 Recommended Considerations Summary

Fairfax County agrees with the Board's recommended requirements for interoperability regarding: 3GPP LTE Standards, Interfaces, and guidelines, User Equipment and Device Management, Evolution, Handover and Mobility, Prioritization and Quality of Service, and Security, and Testing stated in sections 1.3.1 – 1.4.8 pages 9-16 of the Board's final report. These are critical must have requirements, in order for first responders to have a reliable, interoperable nationwide network. The proposed Fairfax County Public Safety Network's design and plan is consistent with the Board's recommended requirements. The design and plan were developed in accordance with the proposed requirements for each category, being backward



compatible, while maintaining the dynamic ability to evolve with emerging LTE technology upgrades.

#### **Section 4.1.4 Existing Infrastructure Integration**

Fairfax County concurs with the recommendations and requirements for integration of State and Local jurisdiction infrastructure into the Nation-wide network plan. As stated in sections 4.1.4 pages 29-34 of the Board's final report. It is the County's belief that all State and Local resources including, but not limited to backhaul infrastructure, towers, backup power, and local perusal resources should be leveraged in a cost effective plan to build the nationwide network.

#### **Section 4.1.10 Network Applications**

##### **Section 4.1.10.1 Recommended Minimum Requirements**

Fairfax County is in support of the Board's recommended requirements for network applications regarding: access to the internet, support public safety applications, responder access to Incident Command Systems, SMS-MMS messaging, and field-based server applications, as stated in sections 4.1.10.1.1 – 4.1.10.1.6 pages 42-44 of the Board's final report. It is the County's belief that it is a necessity that first responders have access to the aforementioned network applications. The County's network plan was developed with this focus, and the ability to evolve to include voice communications. The proposed network will conform to all recommended minimum requirements, while maintaining the dynamic ability to grow.

#### **Section 4.2 User Equipment and Device Management**

Fairfax County supports the requirements for user equipment. Consistent with the Board's recommended requirements, stated in sections 4.2.1.1 - 4.2.2.2 pages 47-48 of the Board's final report, all devices utilized in the proposed network will conform to the accepted 3GPP standards, and will be equipped with all required interfaces to maintain backward / forward compatibility. All devices should maintain the ability to be remotely managed (device as well as applications), while maintaining the integrity of the device security capability, performance, and upgradability, all at Public Safety standards.

#### **Section 4.4.6 Evolution Framework**

As a matter of resiliency, first responders must have an architecture that minimizes large scale outages. A nationwide network, which we view as a "Hybrid" of a system consisting of interoperable Federal, State and local networks; must meet PS resiliency requirements and minimize major outages for Public Safety communications in the future.

We also agree that coordinated research, development, and testing are critical as we proceed in to the next generation of Public Safety communications. Training and evaluation on the local level is a must, but there must also be input from every level of Public Safety from National to Local, along with balanced governance, which is consistent with the Board's recommendations in sections 4.3.2 – 4.3.4 Device, infrastructure and application testing on pages 51-58 of the Board's final report. The utilization of a variety of commercial services when public safety is in areas not covered by the nationwide network is critical to the success of mission of the Public Safety personnel. This is must have feature. We cannot afford to build out a Public Safety Broadband Network at the level of resiliency, self-organizing, QoS, configuration, prioritization, and adaptability needed for Public Safety networks in every area of the county. It is critical that we remain interoperable amongst local jurisdictions and the commercial carrier partners. Our



compatibility with the commercial carriers is one of the keys to the success of the nationwide network.

### **3. Conclusion**

It is essential that citizens nationwide who are protected by the Public Safety community can feel secure in the knowledge that first responders will be able to immediately respond to emergencies, catastrophic or man-made events by using a dependable, reliable, and effective communications network, thus if current implementations by state and local public safety agencies continue, the goal for the nationwide network would be far more cost effective and timely. The distinct need for a private public safety broadband wireless network for Fairfax County, Virginia and for all interdependent jurisdictions contained therein is essential and fundamental. The three fundamental drivers that justify the public safety broadband network are to improve data throughput, and network availability and reliability, recognizing that in this fiscally constrained economy it is critical that any network capability be cost effective so that critical public services, first responders, transportation and other critical infrastructure providers have access to a communications infrastructure that is appropriately available and isn't prohibitively costly.

The transition to a public safety grade LTE network is both timely and necessary. The dedicated public safety network will enable Fairfax County to provide broadband communications services to over 99 percent of the County's population, to all critical infrastructure facilities and to all roads that extend into the remote areas to and from these critical infrastructure and high population center locations.

Early deployments and adoption will create real-time environments that will provide invaluable data which can be used to formulate the development of Governance, data sharing strategies, policies, requirements, and procedures. Waiver jurisdictions should work with FirstNet to ensure that they are fully maximizing all of the efforts and resources of the State and Local Jurisdictions. This would create a 'national test bed', from which real world data can be derived.

In closing, the analysis conducted by the Technical Advisory Board for First Responder Interoperability further demonstrates, illustrates, and supports the strong held belief that Fairfax County, Virginia can deploy, operate, and manage their portion of the Public Safety Broadband Nationwide Network while maintaining nationwide interoperability. The County of Fairfax, Virginia plans to continue to work with other waiver jurisdictions, pending waiver jurisdictions, the FCC, NTIA, NCR, The State of Virginia, FirstNet Board, and the Federal Government to achieve the goal of a fully interoperable 700 MHz Nationwide Public Safety Network.